

# THE LEISURE HOUR

A FAMILY JOURNAL OF INSTRUCTION AND RECREATION.

"BEHOLD IN THESE WHAT LEISURE HOURS DEMAND,—AMUSEMENT AND TRUE KNOWLEDGE HAND IN HAND."—*Cowper*



A SWEDISH PARALLEL TO KING ALFRED AND THE CAKES.

## GUSTAVUS VASA; OR, PRINCE AND PEASANT.

BY GUSTAV NIERITZ, AUTHOR OF "THE EXILES OF SALZBURG."

### CHAPTER VI.—GREAT DANGERS.

Bav was suffering from a burning fever, and in his delirium the execution of Ribbing's children was almost the only subject of his incoherent remarks.

"How often," said Mrs. Mindsen to the pastor during one of his visits to the patient, "used my brother-in-law to fetch the wild ducks from the

water in the depth of winter, and remain in his wet clothes without receiving any injury; and now, while Mr. Eriksen, who was at least as wet and as cold as Bav, is as lively as a fish, Bav has a severe illness!"

"That is quite natural, Mrs. Mindsen, as I will explain to you," answered the pastor. "It is not the body, but the soul of your brother-in-law that is suffering. Not on Mount Sinai only did God make known his commands. No! with Scripture truths he has also written them on every man's heart."

There can even silly Bav read them—not only read, but he can follow them. If man neglects to do this he makes an avenger for himself. The Law, written on tables of stone, knocks violently against the hearts of the disobedient. This is the real illness of your brother-in-law, which the external cold has helped to develop; hence his averted look, his faltering step, his want of appetite, his burning thirst, his restless sleep."

"Then King Christian cannot have a quiet moment," said Rosanna, ingenuously; "he must dislike every morsel he eats."

"Not every human heart is the same," observed the pastor. "That of your uncle's is still tender, as is now proved. But many a one is encased within a hard crust, against which truth has often to beat for years before it can make any favourable impression. Yes, many a man is possessed of so hardened a heart, that even the approach of death's iron hand is not able to break it. In what state King Christian's may be we do not know; but this much we do know, that the Lord our God will not be mocked, or allow his holy laws to be set at defiance."

The pastor left with the promise to return again soon, and Rosanna and her brother Henrick accompanied him to the gate, while Mrs. Mindsen remained with the patient.

Gustavus Vasa, who, on account of the bad weather, and also for his own safety, still sojourned under the widow's hospitable roof, entered the room in the garb of a servant, and approached Bav's bed to relieve her.

Henrick suddenly rushed in. "Danes!" he breathlessly cried; "some have entered the village on horseback! They guard all the paths and go in troops to the farmhouses. They will soon visit us."

On hearing this Gustavus Vasa cast an inquiring look on his hostess's face. Though not altogether unchanged, she exhibited no expression of great alarm. Gustavus asked quietly, "Do you believe there exists one person in the village who desires to obtain the reward for my head?"

"I do not fear it," replied Mrs. Mindsen, "because they do not only run the risk of being called to account for the menaces they uttered against Christian on the evening of your arrival, but also for not betraying your presence. Henrick, leave the room, and go with Rosanna to the pastor. I need not order you both to hold your tongues. And you, sir, as soon as you hear the Danes approach, attend to the fire."

The Danes did not allow them to wait long for their arrival. Rattling and brawling, three horsemen entered the room, which they surveyed suspiciously.

"Now what is there to gape at here?" said Mrs. Mindsen to them, sharply, at the same time rising from her seat near the sick-bed. "Can you not tread a little more gently? I have a patient here who is very ill. It is lucky for you that he is lying ill in his bed just now; were he well, he would soon make you find the door again. What dirt these fellows have brought into the room! What is the use of all my cleaning?"

"Hold your tongue," cried one of the Danes, peremptorily, whilst the other two laughed. "Who is this patient? Is he not pretending to be ill? What is he muttering about cutting off heads and soiling a blue velvet jacket?"

"I am to hold my tongue, am I," said Mrs. Mindsen. "Who is he? do you not know him?"

Why he is King Christian's best executioner, and my brother-in-law. He it was who cut off the head of the youngest Ribbing, and also of the executioner, at Jönköping. Were you not present? It is of that he dreams in his delirium, as you now hear."

"Markoff, the woman speaks true," said one of the horsemen. "I recognise the fellow by his red hair and broad shoulders. This is the last house Gustavus Vasa would seek to conceal himself in."

"Who knows?" answered Markoff, looking sharply at Eriksen, who had turned to the fire; "I see another fellow there who is not very unlike the description."

"Hallo!" cried Mrs. Mindsen, pretending to be much surprised, "there stands the jackanapes again by the fire, warming his fingers!"

While speaking, Mrs. Mindsen hurried towards Eriksen, and stooping down, picked up a wooden scoop which lay there, and with it gave him a hard blow on his shoulder, scolding him all the time. "Now, you lazy clown, can you do nothing but stare? Can you do nothing more useful? Can you not at least bring some logs, or an armful of brushwood hither? Must I alone toil and do all the work, besides waiting on my sick brother-in-law?"

Eriksen left the room muttering.

"If that fellow was the Gustavus Vasa we are looking for," said the second horseman, "he would not have allowed the hand of a rustic beldame to belabour his noble shoulders—no, not if he were to lose freedom and life for it."

"Come, comrade," said the third, "let us hope for the luck of finding him somewhere else, before others anticipate us."

They went, and met Gustavus at the door with a bundle of brushwood, when Markoff gave him so violent a push from behind, that he flew with his bundle far into the room.

What Mrs. Mindsen's blow had not produced was now effected by this push. Gustavus's noble blood was aroused. On the point of leaving the room hastily to take vengeance on the man, Gustavus found himself drawn back by his hostess's strong arm. "Save your life for your country," said she; "do not risk it for a miserable trooper from Denmark, to say nothing of myself and people, whom you would involve in your ruin."

Nothing more was wanted to suppress Eriksen's untimely anger. He was truly grateful to his hostess, and vowed that he would prove his gratitude some other time by his deeds.

After a few days Bav grew better. He had lucid intervals and enjoyed some refreshing sleep. But it now became doubtful whether Eriksen could remain longer there with safety to himself. Rumours prevailed that he was in the neighbourhood and plotting against the Danish government.

Not to put his hostess in danger, Gustavus resolved to leave her farm and proceed higher into the mountains. The accomplishment of this design, however, was prevented by the pastor, who offered to shelter the fugitive in his house, which was less exposed to the risk of being searched by the Danes. Gustavus remained a week there, but the danger of discovery became so great, that even the good pastor was at last compelled to advise the persecuted fugitive to fly from Svärdsjö.

Early one morning in December, before the day had begun to dawn, the yard gate at Mrs. Mindsen's was opened, and a farmer's waggon loaded with

straw, drawn by two spirited horses, went out of it. In the front sat Bav, who had only just recovered, directing the horses; near him, on the straw, sat Rosanna, in winter attire. Notwithstanding the very early hour, several persons were on the move, and who, on seeing Bav, expressed their surprise. "Good luck, Bav, are you quite recovered? Where are you going to so early?"

"To Rättwick market," answered Rosanna for Bav, "where straw is worth more than with us. My mother wants money."

"Eh!" replied one, "are those sixty dollars already gone which Bav—"

"Oh! cease, I pray you," said Rosanna, "if you do not wish to make my uncle ill again. This question of yours is very thoughtless, Kunas!"

Kunas passed on muttering to himself, while Rosanna and Bav proceeded to Rättwick. Presently the sun rose, the cloudless sky causing the snow to shine and glitter like dewdrops in summer.

"If there had only been more snow," said Rosanna, "we could have taken the sledge and got on so much better. How are you now, dear uncle? Are you cold? Do you feel any remains of your illness? Speak, Bav, speak!"

Bav looked at her, shook his head mournfully, and attempted to smile. He then swung his whip and drove faster.

"You crack your whip too often," said Rosanna; "you will knock up the horses."

"You are right," replied Bav; "but as long as I swing the whip he goes away, though he soon returns."

"Who?" inquired Rosanna, anxiously.

Bav was silent. After a short battle with himself, he said, in a low voice, "Little Ribbing, with his yellow curly hair."

"Not so," said Rosanna, "that is mere imagination, the effect of your late illness."

Again Bav shook his head.

"The pastor told you positively," continued Rosanna, "that you committed the sin through ignorance, and that therefore you may hope it will be pardoned by our Heavenly Father, especially as you wish to make amends for it by endeavouring to do all the good you can. You have already made a beginning by getting Mr. Eriksen out of the lake."

"If I only knew what is good and what is evil!" sighed Bav. "You know, Rosanna; so remain always with me, and I will follow your advice."

"Mr. Eriksen knows much better than I," replied Rosanna; "follow him when he bids you do anything. Hark, Bav! do you not hear horses approaching us? There come the Danish horsemen up the side path."

Bav now looked cheerful, and putting his right hand under his fur, said: "Shall I draw, Rosanna, and kill them? Eh, now little Ribbing is gone again."

"Do not stir, Bav!" entreated Rosanna. "Let me speak, and you only repeat my words. Do you hear?" In another moment the Danes were at the side of the waggon.

"Where do you come from? Where are you going to?" they asked, in a loud and insolent tone.

"From Swårdsio to Rättwick to market," answered Rosanna.

"To market," repeated Bav.

"Have you anything else in your waggon besides the straw?"

"Why," replied Rosanna; "what else should we have?"

"Have," echoed Bav.

"Have you seen a fellow called Gustavus Eriksen?" asked the horsemen, "about thirty years of age, has brown hair, a long hooked nose, and wears a servant's dress. He must be somewhere hereabouts."

"I saw a man dressed like a servant," answered Rosanna, "about a quarter of an hour ago, running before us and enter the forest of Skensic. But whether he was called Gustavus Eriksen is more than I can say."

"Can say," repeated Bav.

"The king has placed a high price on Eriksen's head," said one of the horsemen, "and you would receive your share of it if you put us on the right track."

Here Bav's face assumed a mournful expression, and he said to Rosanna, "There he is again!"

"Who is there?" inquired the horseman, eagerly.

"Ah!" exclaimed Rosanna, "that is a sad story. My uncle was obliged to kill little Ribbing on King Christian's bidding, and ever since that the boy seems to appear before him."

"Appear before him," cried Bav.

The horsemen looked at each other, as if their suspicions had been excited. "We will examine the straw, at all events," observed one of them. "Help me to throw down the upper layer of sheaves."

Whereupon they proceeded to throw the bundles of straw off the waggon with their swords, until they reached the last layer, which they allowed to remain, though not without piercing it repeatedly with the sharp blades of their swords up to the hilts—a sort of scrutiny which occasioned Rosanna much anxiety, happily unperceived by the soldiers. "He must have no feeling," laughed one of them, "for were he underneath, he would have been perforated like a sieve by this time. Come, let us now hasten to the forest."

They then galloped off, and Bav and Rosanna commenced to reload the waggon. While so occupied Rosanna said in a low voice, "Mr. Eriksen, are you still alive?"

"I am alive," was the response, which sounded hollow from underneath the straw, "but I am cut in the leg.\* Do not, however, stop, and never mind me."

As soon as all the bundles had been replaced the waggon moved on. Rosanna, being still behind it, suddenly called out in great alarm, "Why! there is blood. Mr. Eriksen! you bleed so much that the blood runs through the bottom of the waggon."

"I care not, let it bleed," said Gustavus.

"But the trace of blood will betray you," exclaimed the quick-witted girl.

"That is another thing," replied Gustavus, "yet we cannot think of dressing the wound now. How can we be certain that the patrol would not observe us from a distance, or that some one did not surprise us at it? Bav must cut one of the horses in the thigh to make them believe that the trace of blood was caused by that.†"

"In its thigh?" cried Rosanna. "No; that would lame the horse and impede our progress. Bav shall cut off the tail of the near horse. My uncle has

\* An historical fact. Gustavus was wounded in this manner whilst concealed under the straw in the cart on his journey.

† An historical fact.



played so many silly tricks that this one will not particularly strike the people."

Bav, in obedience to Rosanna's command, drew out his large knife, took hold of the horse's tail with his left hand, and cut off part of it with his right, leaving the stump, from which he turned his eyes, for even the sight of a horse's blood was now insupportable to him. At length without further molestation they arrived at Rättwick, which lay scattered between high mountains. The pastor had recommended the fugitive to his colleague, consequently the waggon, with its load, entered the gates of the parsonage, situated near the church, but away from all the other dwellings. Gustavus Vasa had suffered much from loss of blood, which discoloured all the straw around him, and left everywhere a perceptible trace. After the deep wound in his leg had been dressed in the best possible manner with the clergyman's assistance, Rosanna spoke. "How that wound must have pained you, Mr. Eriksen! Had I been in your place I should have called out murder, but you did not stir."

"A man," replied Gustavus, smiling, "must know how to bear pain; cries on account of pain may be pardoned in women and children, but not in a man, and least of all in a soldier."

"Remember that well, Bav!" said Rosanna; "you who open your mouth as wide as a barn door if any one gives you a blow on your large long body."

"Only when I get one on my head," answered Bav, "then I must cry out."

"Must!" said Gustavus Vasa, "who forces you? Man is free, and if he chooses, does not cry out even in his death-pang."

"That is true," returned Bav, with a sigh. "The little Ribbings did not cry when they had to lay down their curly heads on the block."

"Now I will drive home," said Rosanna, "as there is still daylight. Farewell! Mr. Eriksen, and take good care of my uncle. And you, Bav, attend to Mr. Eriksen when he bids you do anything. Shake hands once more, Bav!"

"Oh, only stay with me!" implored Bav. "My sister-in-law has still Henrick left to help her."

"No," interposed Gustavus Vasa, "the way over the rough mountains which we have before us is not for children. We shall have difficulties and dangers to undergo which many a man could not bear. Reflect upon that, Bav, and rather do you stay behind, whilst there is yet time for you to do so."

Bav looked inquiringly at Rosanna, who replied, "Have you already forgotten, Bav, what you wish to do—make amends for the evil you have already done? Go, Bav, and do not hesitate."

Bav obeyed her, and remained with Gustavus Eriksen, who in Rättwick tried in vain to induce the Dalecarlians to revolt against Christian, as he had done in Swädsio. His fiery eloquence was always thwarted by the scruples of the peasantry, who, as they had but little to endure from Christian's tyranny, deemed they had not sufficient cause to justify them in breaking out into open rebellion. Thus foiled in his endeavours to rouse the people against their oppressor, Gustavus's own personal security became more and more endangered; he had, therefore, to continue his flight. Before his leg was nearly healed he left Rättwick in Bav's company, with the intention of making his way over the mountains into Norway. It was during the utmost rigour of winter that he put this project in execution.

#### CHAPTER VII.—A RESTING-PLACE.

THE wind was intensely cold, and blew violently, bringing with it a shower of fine snow, which pierced the skin like needles. The sun had set blood-red, so that the white snow alone lit up the twilight which precedes the darkness of night. Just at this time two men in wintry attire appeared on the ridge of the mountains which enclosed the narrow valley. The breath which issued from between their lips froze around their beards and temples; and their boots, reaching high over their knees, were covered with a thick crust of snow.

"There, sir," said the tallest, in whom we immediately recognise the gigantic Bav—"see, there is what we have long been looking for."

What could be more welcome to two wanderers, who had lost their way and were now hungry, cold, and tired, than the sight of a friendly light glimmering through the darkness from a hospitable house? How secure, how protected against the storm, did the mansion below appear in the distance, with its grounds surrounded by a high wall to keep out the wild beasts! How quickly did their wearied limbs descend the slope, and their stiffened hands knock against the gate! The barking of dogs responded to the request for admittance. The crisp snow soon crackled under human footsteps, and the next moment a small window in the gate opened, through which a man moodily asked, "What do you want? Who are you?"

"Since when," replied Gustavus Vasa, reproachfully, "are travellers who have lost their way asked in Sweden—and especially in the hospitable mountain country—for their names and business before they can be admitted? Is your master neither a Swede nor a Christian?"

In answer to this the man muttered something to himself and opened the gate, but looked suspiciously at Bav's colossal figure, and seemed to contemplate him with astonishment. As Gustavus and Bav wore but common clothes, they were shown into a side building, occupied by the servants of the estate, where they found a well-warmed room, and where abundance of good food was soon set before them.

That evening Bav proved that he had not quite lost his appetite. He devoured so large a quantity that the persons present looked at him with surprise and laughed audibly; even the proprietor of the estate drew near to observe him. The proprietor was a nobleman, whom Gustavus immediately recognised; he would not, however, have made himself known to him if Perssen had not himself renewed the acquaintance by inviting Gustavus, under his name of Eriksen, to his own apartment, bidding him welcome in a friendly manner, saying: "As you see, dear Eriksen, I live here with my wife, children, and servants, quite excluded from the outer world, and therefore hear little or nothing of its doings. Tell me, friend, how are you getting on? and how do affairs relating to our native country stand at present? First of all, why do you wear the dress of a servant, and wander on foot through the mountains in this bleak winter season?"

"I do not know, dear Perssen," replied Eriksen, "whether to congratulate or to pity you on account of your ignorance. You ask how fares it with our native country. Indifferently. It bleeds at every pore under the blows of the faithless tyrant—the vindictive Christian. Are you still ignorant of the

massacre at Stockholm, which cost six hundred of the noblest Swedes their lives—amongst them my father, brothers-in-law, and cousins? Is it unknown to you that Denmark's king, in his bloodthirstiness, does not spare even innocent children? Behold your own children affectionately playing around their mother, basking in her looks and smiles! Children just like these, innocent of any guilt, were executed at Jönköping by Christian's order; and the executioner also, because he possessed a more humane heart than the tyrant."

"Dreadful! dreadful!" exclaimed Perssen's wife, while she drew her children more closely to her.

"But," said Perssen, "how is it that I see you in Sweden? Were you not sent to Denmark as a hostage?"

"Yes," replied Gustavus; "and it is indeed true that I was detained as a prisoner, contrary to the law of nations. There I lived under the protection of one of my relations, who delivered me from prison by bail. But when I heard of Christian's faithlessness, and that he meditated taking possession of my native land by force of arms, I escaped and fled, first to Lubeck, where the magistrates protected me against my persecutor, and promised to assist me with money and soldiers in the event of my succeeding to induce my countrymen strongly to oppose Denmark. But with the valorous Sten Sture's death Sweden's courage and confidence perished. Wherever I directed my steps over her soil, my inciting words were of no avail. In Calmar, the German garrison threatened to deliver me up to the Danes; and I could not venture to approach Stockholm. Exposed to continual dangers, I wandered through Smaland and Södermanland, sometimes passing the night in cornfields, and sometimes in the forests. Even my brother-in-law would not further my views, and my sister entreated me, with agonising tears, to abandon my hazardous design. Wherever I made myself known, they closed their doors against me; and even the Cloister Gripsholm, founded by my ancestors, refused to afford me an asylum. At last I resolved to go to the Dalecarlians in the mountains, amongst whom alone I hoped to find simple customs, love for their country, and for freedom, valour, and disinterested hospitality. I was not mistaken, in so far as they received me hospitably, concurred in my views, and sheltered me from my persecutors; but to join me in an attack on Denmark was too much even for them. I am therefore, like a wild animal at bay, endeavouring to escape to Norway from the Danes, who are laying wait for me everywhere. There, dear Perssen, you have briefly my history."

"How I pity you!" said Perssen. "If I were but able to brighten your fate, how delighted I should be! At all events, you shall remain here. I cannot allow you to leave my house till I find out whether you can continue your journey to Norway without danger. Which route do you mean to take?"

"By Flenwick and Törnebock," answered Gustavus. "I must avoid every place which is garrisoned by Danes."

"But to-day let us get rid of all sorrows," exclaimed Perssen, encouragingly, "and encourage one another to believe in the salvation of our dear native land."

The friends remained conversing until late at night, when Gustavus retired to his couch, the comfort of

which, after the hardships he had encountered, soon caused him to fall fast asleep. He would have slept on till daylight had he not been awakened by a hand which, judging from its size, could belong to no other than Bav, who had passed the night in a less stately apartment. He had managed to get to Gustavus unperceived, for in those days and in that country wooden bolts only were used in the interior of the houses.

### THIRTY YEARS OF THE REIGN OF VICTORIA.

PERSONAL RECOLLECTIONS BY JOHN TIMBS.

#### XIV.—SCIENCE AND ART EXHIBITIONS.

SOME thirty-two years ago it was said by a president of the British Association, "the amusements of life have taken a scientific colour," and our several metropolitan exhibitions partook more or less of this attractive character.

A short time before, Jacob Perkins, the famous engineer, built in Adelaide Street, Strand, the Adelaide Gallery of Practical Science, which was opened by a Society for the Exhibition of Models of Invention, Works of Art, and Specimens of Novel Manufacture. Here, in a canal seventy feet long, and containing 6,000 gallons of water, were shown steamboat models, with clockwork machinery, experimental steam-paddles, lighthouse models, etc. Next was exhibited the combustion of the hardest steel; the compression of water; a mouse in a diving-bell; a steam sugar-mill; a gas cooking apparatus; a model of the Liverpool railway; electro-magnets; a speaking trumpet; a magic bust, the head of which was cut off by a spring contrivance; models, from the Temples of Egypt to the Thames Tunnel; looms at work; mummy-cloth 2,000 years old; Carey's oxyhydrogen microscope, shown on a disc seventeen feet in diameter; and an automatic ship at sea. In the two latter a world of animalculæ was shown in a drop of water, and persons were made *qualmish* by the mechanical movements of the ship at sea.

One of Jacob Perkins's marvels was his steam-gun, propelling balls with four times greater force than that of gunpowder, the steam being raised from 300 to 600 pounds to the square inch; and the balls, on reaching the cast-iron target, fired at the distance of 100 feet, were reduced to the substance of tinfoil. It was possible to propel 420 balls in a minute, or 25,200 balls in an hour, and the gun was promised to mow down a regiment in less than ten minutes! It was thought that the expansive force of steam might be substituted for that of gunpowder in military operations, the principal points being that, owing to the duration of the propelling force, a great number of balls could be discharged in a very short time; and the tube being easily turned on a swivel, the shower of balls might be directed in the required direction. But the engines required complicated and ponderous apparatus: it took a considerable time to *get the steam up*; and lastly, the percussion attained by the balls was less than that of similar balls projected by means of gunpowder. Success was not promised by the Duke of Wellington—some authority—who predicted the failure of the steam-gun in warfare. A living electrical eel (*Gymnotus*) was brought here from South America in 1838: its length was forty inches, and it resembled in appearance dark puce-and-brown plush,

such as was then in fashion for waistcoats. Professor Faraday obtained from it a most intense electric spark; and by one shock not only was the galvanometer deflected, but chemical action and magnetic induction were obtained. The eel died in 1842. There had not been one exhibited in London for more than sixty years, when five shillings was the admission charge for each visitor.

The National Repository may be considered to have been the parent of this class of wonders; it was formed in 1828, in the upper gallery of the south-west wing of the King's Mews, Charing Cross, and thirty-five adjoining rooms were reserved for the reception of products from the chief manufacturing towns. Here were silk rooms to work at certain hours; English Mechlin lace; crystallo-ceramic ornamental glass, such as Apsley Pellatt applied in the foundation-stones of buildings; models of steam-engines, steamboat paddles, and suspension-bridges; kaleidoscopes, musical glasses, etc. The exhibition proved unattractive, notwithstanding King George IV and his ministers took much interest in the project. The collection was removed to Leicester Square, but was soon dispersed.

The Polytechnic Institution in Regent Street was the next novelty, and consisted of mechanical and other models, a hall devoted to manufacturing processes, a laboratory beneath, and a theatre or lecture-room, wherein to show London water by the oxyhydrogen microscope, reputed to magnify 30,000 times. But the great wonder of the collection was the diving-bell, which was made to descend into a circular tank of water fourteen feet deep, and was put into action several times daily, each diver paying one shilling for each descent; it proved a complete success, the bell turning in nearly £1,000 per annum.

The Panopticon of Science and Art, in the centre of the east side of Leicester Square, the next marvel of this class, was built 1852-3 by a chartered company, for a polytechnic exhibition: it has a pair of minarets nearly 100 feet high, a domed roof, and other Saracenic features. The interior had a hall ninety-seven feet in diameter, lecture theatres, laboratory, colossal machinery for experiments; and an electrifying machine, plate eight feet in diameter. This was altogether a most costly speculation, the fittings being very elaborate. It had a magnificent organ, a complete assemblage of novel mechanical contrivances, including seven bellows worked by steam. The vast building was heated by a "warming battery," and to cool the air was a central fountain which threw up ninety feet of water from an artesian well 346 feet deep. Notwithstanding the Panopticon was far in advance of the contemporary attractions, it was too expensive to succeed, and the building was devoted to other and less commendable purposes.

The Panorama was an ingenious exhibition, a circular painting, having no apparent beginning nor end. Its origin has a curious history, the details of which were furnished to me by Mr. Burford, the painter of the panoramas of our time. It was first devised by Robert Barker, an artist, who, whilst seated on the Calton Hill, Edinburgh, put up an umbrella to protect himself from the sun, when he noticed the greater effect it gave to the whole circle of the horizon. This he sought to turn to account in a pictorial contrivance, where the spectators should be placed in the middle of the picture-circle, covered overhead to give additional effect to the painting itself, which is a deviation from the ordinary flat sur-

face to that of a curve, so as to allow of representing the whole view surrounding any spot, with entirely new rules of perspective for the purpose. Sir Joshua Reynolds foretold the failure of the novelty, and was equally surprised and delighted on witnessing its success in a small circle painted by Mr. Barker, at 28, Castle Street, Leicester Square. Larger premises were then erected at the north-east corner of Leicester Square, by the subscription of a party of noblemen and gentlemen; and here the first panorama was produced by Mr. Barker in 1794, the success of which soon enabled the painter to repay his patrons their capital with interest. The first picture was a view of London, taken by Thomas Gartin, from the Albion Mills, at the south end of Blackfriars Bridge. Next was painted the Fleet under Lord Howe at anchor at Spithead; followed by Elba, Athens, and the Bay of Naples: the two latter were highly commended by Stothard. Among the early pictures were the Battles of the Nile, Trafalgar, Badajoz, Vittoria, and Waterloo. Robert Barker was succeeded by his son, Henry Aston Barker; on whose retirement, John Burford, his pupil, became painter and proprietor; and was succeeded in 1823 by his son, Robert Burford, after whose death the exhibition was discontinued, and the building otherwise appropriated. The panoramas were painted in oil by Mr. Burford, mostly from his own sketches; but the latter were in some instances taken by artistic travellers. The extreme accuracy of the views, as well as their pictorial character, gained for the exhibition high reputation, which I repeatedly heard expressed at "private views," which were mostly attended by artists and travelled visitors, best calculated to appreciate the authenticity of the pictures. The most attractive pictures were the Battle of Waterloo, and Jerusalem, both painted twice.

The celebrity of these exhibitions was, however, eclipsed by the Colosseum in the Regent's Park, named from its colossal size, and not from any resemblance to the Coliseum at Rome. There were, around the rotunda, lofty conservatories, a Swiss *chalet*, and mountain scenery, interspersed with real water cascades, certainly an advance upon the tin waterfalls of old Vauxhall. The *chalet*, or Swiss cottage, was originally designed by P. F. Robinson, the architect; the broad-eaved roof, walls, and projecting fireplace, were fancifully carved; and the bay window looked upon a mass of rock scenery. But the ingenious projector failed; the property passed into the hands of trustees, after which the place lost much of its status as a place of public amusement. I remember the whole details—London, the conservatories, promenade, model ruins, golden pinnacles and eastern domes, the chaos of classic relics—and all were to be seen, for a short time, for one shilling! Such was the rush of holiday-keepers that they bade fair to wear away the place. In 1843 the Colosseum was bought by Mr. David Montague, who altogether retrieved and elevated the artistic character of the establishment. In 1848 was added the Cyclorama of Lisbon, depicting in ten scenes the terrific spectacle of the great earthquake of 1755, the uplifting sea and overtopping ruins, and all the frightful devastation of flood and fire—the scenery painted by Danson, in the manner of De Loutherbourg's Eidophusicon, which not only anticipated, but in part surpassed, our dioramas. The realistic character of the Colosseum, at the outset, was astounding; but it has been the fashion of the day to describe its decline in a comic vein.



The Lisbon earthquake redeemed its realistic character—but too late. Mr. Horner, many years after the failure of the Colosseum, produced a large panorama of New York; but his hopes were blighted, and his energies wasted upon a work which the public had not sufficient taste to appreciate.

The model pictures at the old Surrey Zoological Gardens, as Vesuvius, Iceland, Rome, etc., merit mention here for their artistic character, stated to have originated from the Ranelagh pictures of the last century. The Battle of Waterloo was produced at Vauxhall Gardens by the ingenious Charles Farley, live soldiers in mock fight adding to the illusion. The Siege of Sebastopol and other events have since been represented in the same style.

Another novelty of this period was the diffusion of scientific information upon special subjects by *oral teaching*, or lectures, to the influence of which may be attributed the great success of many important measures, social as well as political.

Dr. George Birkbeck, who must be considered the pioneer of this generous band of improvers by oral teaching, was born January 10, 1776, at Settle, in Yorkshire, and was sent to school at Newton, Lancashire, until the age of fourteen, when he was placed with Mr. Dawson, of Sedberg, a man of considerable mathematical attainments, who had once been a shepherd. He displayed an early predilection for mechanics and other scientific subjects, which led him to select the medical profession as his pursuit. He studied at Edinburgh, where he formed in the university a friendship with Brougham, Jeffrey, Sydney Smith, and F. Horner; and while at Edinburgh he was elected professor of the Andersonian Institution at Glasgow. There was then no maker of philosophical instruments at Glasgow. He employed a tinman to construct a model of a centrifugal pump; and it was in the cellar which formed the workshop, while surrounded by the workmen who had made it, but were ignorant of its use, that he was first struck with the idea of giving gratuitously a course of lectures for the scientific instruction of the mechanics of Glasgow; but the proposition was considered visionary. Dr. Birkbeck then returned to Yorkshire and commenced a series of lectures for persons engaged in the mechanical arts, men whose education in early life had precluded the possibility of acquiring the smallest portion of scientific knowledge. On his return to Glasgow he invited the most intelligent workmen into the mechanics' class at the Andersonian Institution. At the close of the course his class of mechanics presented him with a silver cup. In 1806 he married and settled in London, and while in active practice there as a physician, he gave a gratuitous course of seventeen lectures at the London Institution. In 1823 he issued, in the "Mechanics' Magazine," "Proposals for a London Mechanics' Institute," and an essay on the Scientific Education of the Working Classes; and in this year Dr. Birkbeck was elected president of the "London Mechanics' Institution," which office he filled till his death; the doctor having generously lent £3,700 for the purpose of building a lecture-room, etc.

Dr. Birkbeck's professional and scientific pursuits, and his practical services in various ways, in connection with objects of public utility, were continued to the last. He died on the eighteenth anniversary of the establishment of the first Mechanics' Institution. He was mild and equable in his temper and disposi-

tion, benevolent in spirit, and possessing great suavity of manner. I remember to have seen him often at Brighton in the autumn of 1824; and, among other instances of his services for the enlightenment of the people, I recollect his showing me a portion of a treatise upon anatomy, which he had just written and contributed gratuitously to a cyclopædia in course of publication for the people, and I understood him to have arranged for the completion of the entire work. Such generosity needs no eulogium to commend it to posterity.

Among the early proceedings of the Mechanics' Institution, I may here mention that in 1829 Mr. Dakin explained the curious apparatus, invented by Dr. Wollaston, which he called an Elementary Galvanic Battery, and which consisted of a silver thimble with its top cut off. It was then partially flattened, and a small plate of zinc being introduced into it, the apparatus was immersed in a weak solution. With this minute battery, he was able to fuse a wire of platinum one-three-thousandth of an inch in diameter, a degree of tenuity to which no one had ever succeeded in drawing it. Upon the same principle (that of introducing a plate of zinc between two plates of another metal) Mr. Children constructed his immense battery, the plates of which measured six feet by two feet eight inches, each plate of zinc being placed between two of copper, and each triad of plates being placed in a separate cell. With this powerful apparatus, a wire of platinum one-tenth of an inch in diameter, and upwards of five feet long, was raised to a red heat, visible even in the broad glare of daylight. Mr. Dakin, a man of considerable scientific attainments, long represented the ward of Candlewick in the Court of Common Council, and being elected alderman of the ward, succeeded to the mayoralty, 1870-71. Next, in recognition of the urbanity, efficiency, and dignity with which he sustained the honourable position of Lord Mayor, he was knighted by the Queen, and subsequently presented with a testimonial of plate by his fellow-citizens. It is rarely in past times that we find recorded a man gifted with such accomplishments as Sir Thomas Dakin possessed some forty years ago—to add unusual grace to his year of office at the Mansion House.

In these early days of *oral teaching*, that is by lectures, Dr. Dionysius Lardner, the best popular scientific writer of his day, presented a most remarkable instance. He was born in 1793, and educated at Trinity College, Cambridge, where he gained sixteen prizes in metaphysics, pure mathematics, natural philosophy, astronomy, and moral philosophy. He is best known by his popular treatise on the steam-engine, the late editions of which contain the refutation of those absurd reports which were generally circulated, imputing to Dr. Lardner opinions as to the impossibility of the Atlantic voyage, which were precisely the reverse of those he really expressed. For his "Cabinet Cyclopædia," in 135 volumes, he wrote several treatises, besides obtaining the contributions of leading men of science. Between 1840 and 1845, he lectured in every principal town of the United States and Cuba. Of his lectures, in two large volumes, more than fifteen editions were sold. His "Handbooks of Natural Philosophy" and "Museum of Science and Art" were deservedly popular, the publication of the latter starting with 50,000 subscribers. In the preparation of his voluminous works Dr. Lardner was ever mindful of the assistance contributed; and

I remember to have received from New York, in 1856, a special acknowledgment of the good service of some forty-five volumes of the "Arcana of Science" and "Year Book of Facts."

In June, 1858, I was present at a very interesting festive commemoration of the success of that important invention, the system of screw propulsion, which was then already employed in 174 of her Majesty's fleet. The festival was the first dinner held in St. James's Hall, Piccadilly. The chair was filled by Mr. Robert Stephenson, M.P., and to Mr. Francis Petit Smith a silver salver and claret jug and the sum of £2,678 were presented, with an address, in recognition of the great benefit conferred by him on his country in bringing into general use the system of screw propulsion. This was not a commonplace public dinner, but a most impressive festival. Mr. Stephenson, in presenting the plate, and the address, signed by 138 subscribers to the fund, chiefly eminent naval officers, engineers, ship-builders, ship-owners, and men of science, took a lucid view of Mr. Petit Smith's services. Mr. Scott Russell, one of the vice-chairmen, in the course of the evening, illustrated historically, and with great judgment and felicity, the respective shares of the engineers, ship-builders, and others, who from time to time urged the adoption of screw propulsion, consummated by the services of Mr. Petit Smith. To distinguish the relative claims of the inventors was no easy task. The evening was most intellectually passed, as was incidentally observed, in commemorating "one of those bloodless triumphs of civilisation of which this age and country have just reason to be proud." I happen to have watched for many years the toilsome exertions of Mr. Smith in his great object, for which he has since received knighthood.

In the following year, the great railway engineer who presided at this commemoration was taken from us. Like Brunel, Robert Stephenson commenced his professional career under his father, George Stephenson. Among his great works may be mentioned the Royal Border and High-level Bridges; and more especially the Conway and Britannia Bridges, which were the first examples on so vast a scale on the tubular principle, and the bridges across the St. Lawrence and the Nile, remarkable alike for their grandeur, conception, and successful execution. He almost worshipped his father's memory, and said he owed all to his father's training, his example, and his character. In society he was simple, unobtrusive, and modest, but cheering, and even fascinating, in an eminent degree; so manly, yet gentle, and withal so great. His great wealth enabled him to perform many generous acts in a right noble and yet modest manner.

### The Soliloquy of a Rationalistic Chicken.

Most strange!

Most queer,—although most excellent a change!  
Shades of the prison house, ye disappear!

My fettered thoughts have won a wider range,

And, like my legs, are free;

No longer huddled up so pitifully:

Free now to pry and probe, and peep and peer,

And make these mysteries out.

Shall a free-thinking chicken live in doubt?

For now in doubt undoubtedly I am:

This problem's very heavy on my mind,

And I'm not one to either shirk or sham:

I won't be blinded, and I won't be blind!

Now, let me see;

First, I would know how did I get in there?

Then, where was I of yore?

Besides, why didn't I get out before?

Bless me!

Here are three puzzles (out of many more),

Enough to give me pip upon the brain!

But let me think again.

How do I know I ever *was* inside?

Now I reflect, it is, I do maintain,

Less than my reason, and beneath my pride,

To think that I could dwell

In such a paltry miserable cell

As that old shell.

Of course I couldn't! How could I have lain,

Body and beak and feathers, legs and wings,

And my deep heart's sublime imaginings,

In there?

I meet the notion with profound disdain;

It's quite incredible; since I declare

(And I'm a chicken that you can't deceive)

*What I can't understand I won't believe.*

Where *did* I come from, then? Ah! where, indeed?

This is a riddle monstrous hard to read.

I have it! Why, of course,

All things are moulded by some plastic force

Out of some atoms somewhere up in space,

Fortuitously concurrent anyhow:—

There, now!

That's plain as is the beak upon my face.

What's that I hear?

My mother cackling at me! Just her way,

So prejudiced and ignorant, I say;

So far behind the wisdom of the day!

What's old I *can't* reverse.

Hark at her: "You're a little fool, my dear,

That's quite as plain, alack!

As is the piece of shell upon your back!"

How bigoted! upon my back, indeed!

I don't believe it's there:

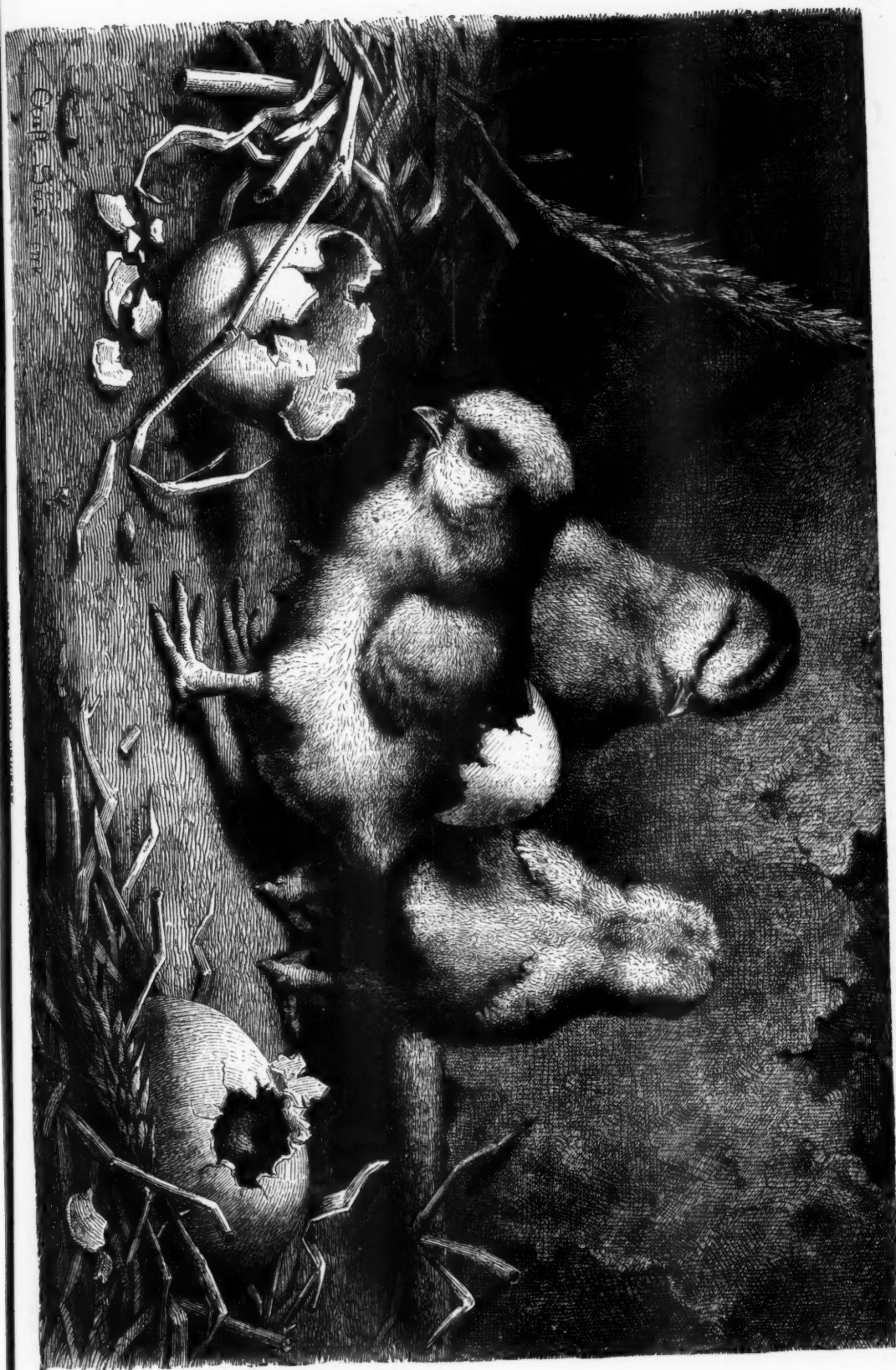
For I can't *see* it; and I do declare,

For all her fond deceivin',

*What I can't see, I never will believe in!* \*

\* By permission, from "The Knight of Intercession, and other Poems." By S. T. Stone, M.A. Rivingtons.





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## A MIDLAND TOUR.

## XXVI.—COVENTRY.

COVENTRY! What echoes of old legends—what visions of armies, and processions of royal and saintly personages—what shadowy multitudes of monks and nuns—gather around us as we approach it! The Convent Town! The Town of Godiva! (It is said to have been the birthplace of St. George.) A nunnery existed here a thousand years since. On its ruins Leofric, Earl of Mercia, and his countess erected a Benedictine monastery (the church of which afterwards became the cathedral); the walls of the monastery are said by William of Malmesbury to have been covered with gold and silver. Pleasantly situated mid hill and dale and woodland, the village which had sprung up around the nunnery, and had grown into a town, still grew; and the countess, to save the people from an obnoxious impost, rode through it as related in the famous story. The town was by-and-by walled in: the walls, nine feet thick, and three miles round, had thirty-two towers and twelve gates. Monkish houses and institutions multiplied: the Benedictines, the Grey Friars, the White Friars, and the Carthusians, had each a monastery; and here, on movable stages, in the streets and open grounds of the city, were represented those "mysteries," or "miracle plays," which made Coventry so pre-eminently famous, and in the accounts connected with which we find such interesting items as, "Payd for 2 pound of hayre for the Divill's head, 3d.; mending his hose, 8d.; . . . red buckram for the wings of angels, 7s.," etc., etc. Trade, too, in woollens, broadcloths, and the blue thread long known as "Coventry True Blue," was established. Here, moreover, took place the famous meeting for the intended "trial by battle" between the Dukes of Norfolk and Hereford, immortalised by Shakespeare in "Richard the Second." Two memorable parliaments were held in the monastery of Coventry in the 15th century. And Coventry figured considerably in the Wars of the Roses, and adhered throughout to the cause of Henry VI and his queen, who had been great benefactors to the city, often visited it, and gave it the rank and title of a county. But by-and-by the monasteries were despoiled and demolished. Queen Elizabeth visited the city, and Mary Queen of Scots was brought here a prisoner. Charles I came and was refused admittance,\* and Charles II avenged his father's memory by throwing down the walls after they had stood for 300 years. Still, and notwithstanding it had been visited repeatedly by the plague, the city survived; and, retaining all its ancient memories, and much of its reputation in trade, grew larger and more prosperous, becoming next but two in the kingdom to London in population, having only York and Bristol before it. It had great trade "guilds," and its own peculiar civil laws and customs. The memory of Godiva survived also, and, associated with it (as

some dark object overhanging—not concealing, but rather throwing into relief—some sunny statue) that of "Peeping Tom." And these have come down even to us, while the city has gone on increasing, save when suffering from the plague (as it did of old) or from calamities in trade; and a poem and a painting have been produced in our own day worthy of the heroine (herself so worthy of both). Tennyson's lines will be remembered—

"I waited for the train at Coventry,  
I hung with grooms and porters on the bridge  
To watch the three tall spires; and there I shaped  
The city's ancient legend into this—"

which he proceeds in musical numbers to relate, ending—

"She gained  
Her bower, whence issuing robed and crown'd  
To meet her lord, she took the tax away  
And built herself an everlasting name."

And the "Lady Godiva" of Van Lerius, president of the Academy of Arts at Antwerp, is a fitting companion to Tennyson's poem.

"The three tall spires" form a striking and very picturesque feature of the city as we enter it. As we look around, and ask questions of Mr. W. G. Fretton, the well-known antiquarian of Coventry, who accompanies us, we learn that much of old Coventry has disappeared. The monastery erected by Leofric, as well as its predecessor, almost the whole of the cathedral, and the priory, are gone. The "Pilgrim's Rest," a famous place of refreshment for travellers, is gone; two only of the city gates, and a morsel or two of others, remain. The walls are nearly all gone, but some few fragments may be met with here and there: one considerable portion, called the Park Wall, on the south side of the city, is in the most perfect state of preservation, having upon it traces of the old operation of arrow-sharpening being anciently practised there. Some portions of several of the monasteries remain: Hill Close, which includes the whole site of the Benedictine Monastery, of which the Priory Church served as the cathedral; the Carmelite, or White Friars, now used as a "house of industry;" the Grey Friars, the spire of which, a solitary relic, had the new Christ Church attached to it about forty years since; and a few fragments of the Carthusian, now incorporated with a residence known as the Charter House. In the market-place stood, until 1771, a rich tall hexagonal Gothic cross, erected 1541-4. St. Mary's Hall, built for the guilds in the early part of the 15th century, remains, and is one of the finest specimens of the sort in England, having a grotesque carved oak roof, minstrel gallery, ancient tapestry, old city armour, and great painted windows. There remains also Bond's Hospital for Old Men; and Ford's Hospital, a very curious specimen of domestic architecture, still serving as an almshouse for old women. A few fragments of the Manor House at Cheylesmore, where Edward the Black Prince "kept house," yet remain, incorporated with some modern dwelling-houses. And specimens of the old projecting timber-framed houses are to be seen intermingled with modern buildings in almost all the old narrow streets; and many of them are rich internally in ancient carved oak work.

\* It is generally supposed that the hostilities between Charles I and his Parliament commenced at the battle of Edge Hill on the 23rd of October, 1642; but the facts are that on the 20th of August previous the king arrived at Stoneleigh, and on the same day invested the city of Coventry. His army consisted of 1,500 only (though one account says 6,000), but having been refused admission, he at once commenced a siege. The city being garrisoned with 2,000 men, and favourable to the Parliamentary cause, succeeded in defeating the attempt with some loss to the royal army, and that of one of the citizens. The king then proceeded to Southam, and a skirmish took place near there, in which about fifty Royalists were slain. On the 25th (two days after) the king set up his standard at Nottingham.—"Fortified Coventry," by W. G. Fretton.

Coventry is no longer a city of monks and nuns, quiet-going merchants, and easy traders, but of busy, bustling manufacturers and workpeople, employing her thousands in the spinning and weaving of silk and other textiles, by steam machinery; and in watchmaking and other manufactures. Let us glance at these. And first of

## COVENTRY RIBBONS.

Coventry is the chief seat of our ribbon manufacture. It was introduced there about 180 years since, the first workmen being probably French refugees from Tours and Lyons, who were driven to England by religious persecution, and who have left lasting memorials behind them in the technicalities of the trade. At first the manufacture was very limited; then, as the single-shuttled loom, making only one ribbon at a time, was succeeded by other looms making a number of ribbons at once, it extended; improvement followed improvement, and the introduction of the Jacquard loom enabled the most beautiful and elaborate patterns to be produced with comparative ease in a style which had till then been almost utterly unattainable. In the infancy of the trade the importation of French and Italian silks was prohibited; as time went on the prohibition was withdrawn, then renewed, then again withdrawn. Foreign competition stimulated the manufacture, and led to great excellence of production; but during the several periods when the importation of ribbons was prohibited, the manufacture did little credit to our taste in design.

The history of the trade in Coventry has been one of frequent change and revolution. The caprices of fashion, disputes many and turbulent about wages, strikes and locks-out, changes of system of employment and of payment, the introduction of machinery, the adoption of the factory system, war, peace, even the seasons, all have had their effect on the trade. The introduction of steam machinery, long violently opposed by all classes, from the highest manufacturer to the lowest operative, filled the factories then and afterwards erected, as they were successively built, with improved looms, and led to various important changes. By the old custom the weaving of ribbon was done on the "undertaking" system; the "manufacturer" furnishing the "undertaker" with the silk, dyed; and the "undertaker," who provided the looms, and employed his family, apprentices, and journeymen (if he had any), in weaving, returning it as ribbon, at a given price. The weaving is now more generally performed in factories, where hundreds of people are employed under the superintendence of a foreman. Still, many of the best hands, the out-of-door weavers (thus distinguished from the "in-door," or factory, workers), have looms of their own\*—a "plain" loom costs about £36, a "figure" loom from £50 upwards—and are supplied by the manufacturer, as of old, with dyed silk, which they make into ribbon. Many of the inferior hands also find employment out of doors;

the factory employes being chiefly "middle-class" hands. Altogether it is said the "domestic" weavers are quite as many in Coventry as ever, and do as much work as, or more than, all the factories. (By working at home, they say, the loss of time in going to and from the factory is prevented, and the children of the family can be conveniently employed.)

But however the weaving is managed, the "manufacturer," who has first obtained his material from the "silkmen" and dyed it (the silkmen, who *spin* the silk, having previously purchased it, through the silk-brokers, from the importers, who obtain it from Italy, Japan, China, and India), sends the ribbon returned him by the weaver to the silk merchants of London and Manchester, who distribute it to the trade. The ribbons are made in eighteen-yard "lengths," and sold in "pieces" of two lengths each. The introduction of the aniline dyes, to which we shall presently refer more largely, has had a great effect on the ribbon trade generally; causing the old elaborately-figured ribbons to be almost entirely superseded by plain ribbons in every variety of permanently beautiful colour. In consequence of this, the Jacquard loom has been almost superseded since 1858, when there were probably about 2,000 in the city. It was estimated in 1866 that of about 3,000 looms employed in Coventry in ribbon-weaving, the number of Jacquards did not much exceed 100. The manufacture is now divided into two branches, the plain and the figured. Many "cottage," or small, ribbon-weaving factories have their motive power given them by an engine which supplies a number of others in the same locality: the weavers who have looms at home pay sixpence a day, or half-a-crown a week, for the use of steam power. Some landlords are proprietors of steam power, and provide looms: they let house, loom, and steam power together to the weavers. Many disputes in the trade have been about price lists, or the establishment of one uniform rate of payment for similar descriptions of work; but labour is now quite free, price lists having long since been altogether abolished.

The year 1860 was the darkest in the industrial annals of the city. Coventry ribbons had fallen into disuse; and the ribbon trade, which had directly and indirectly supported from 50,000 to 60,000 persons in the district, and in which from £8,000 to £10,000 were paid in wages weekly in Coventry alone, collapsed. Especial stress is laid by Coventry people on the French Commercial Treaty, which they say admitted foreign ribbons suddenly and without warning duty free into the English market, and at the same time kept the foreign market closed against English ribbons. In the first four months of the treaty, 56,131 lb. weight more of foreign ribbons were imported than in the corresponding four months of the previous year. Many manufacturers left the trade, and every description of property connected with it was most seriously depreciated. At the same time the men withstood a reduction in prices, and wasted their resources in a useless struggle to maintain them; their savings were consequently expended, their furniture and clothing sacrificed, and hundreds of looms were sold for firewood. At last the distress of the people rose to such a height that the magistrates and ministers of religion in the distressed districts were called together by the Lord-Lieutenant of the county, and a fund for their relief opened. The locality was divided into thirteen districts, each of

\* The upper floor in many of the houses in Coventry is fitted up with appliances for the use of steam power in connection with engines, for which rent is paid, and ribbon-weavers who have been accustomed to work at home dislike the factories and the factory people. In 1864 it was said: "Within the past forty years hundreds of thousands of pounds have been laid out in Coventry and its neighbourhood in the erection of factories and filling them with machinery, which is now almost an entire loss. The outdoor weavers are making work at such miserably low prices that if men were willing to work in a factory for five shillings a week they could not compete with the outdoor weaver; hence our empty factories and our useless and valueless machinery."



which had a committee receiving grants and administering them according to general rules laid down by a central committee. Week after week the industrious, the prudent, the till then independent-minded artisan and his family, were added to the list of persons receiving aid. The average number of families relieved weekly was from 5,000 to 6,000. Great numbers sought employment in other trades, went to other places, emigrated. Sympathy with the distressed operatives was awakened, and fashion, which had discountenanced Coventry ribbons, now again set the example of wearing them; the Franco-Prussian war by-and-by stopped French competition, and the evil day was at last tided over. The effect of free trade has been to increase the size of looms, and thus cheapen production; it has also, by introducing competition, led to improvements in the quality of the goods produced. The "Times" has observed, that "tested by excellence of design, of colour, and of texture, the ribbons of Coventry are quite equal to those of St. Etienne;" and again it says, they "are in no point inferior to those exhibited by the French manufacturer, while they greatly surpass the fabrics shown by the Basle houses—their only other competitors. The colours are so brilliant and so exquisitely arranged, that it is clear the art of dyeing has kept pace with the art of design."

By evidence given in the House of Commons in 1818, there were at that time 2,260 engine looms in Coventry, and 1,008 single-handed looms; or, including the neighbouring parishes and hamlets, 3,003 engine looms and 5,483 single-handed looms; and the number of hands employed from ten years old and upwards as weavers, winders, warpers, and fillers, was 13,346, of whom 4,973 were in the city of Coventry. In 1826 there were 120 ribbon manufacturers in Coventry, and 20,000 persons were employed in the ribbon trade in that city and its vicinity. The census of 1861 gave 3,267 males, and 6,965 females employed in the silk and ribbon manufacture in Coventry. In 1867 we are told there were 6,000 weavers in Coventry, 2,000 of whom were without employment. In 1869 there were not more than twenty ribbon manufacturers in Coventry.

The operative ribbon-weavers are mostly paid by the week, the average wages for average hands ranging from about 13s. to 19s. a week, with premiums on the work executed in proportion to the celerity with which it is done; so that a quick and clever weaver may almost double his wages. The wages of females range from about 7s. to 10s. a week. Hart's manufactory is the principal; it employs about 500 looms, and has about 1,000 workpeople in pay, many of whom, however, are occupied in the outskirts. During the last year or two many ribbon-weavers have given up the trades they adopted in the hour of distress, and resumed their old employ: the increase is thought to have equalled a third of the whole number of workers. The masters and people, too, are united, and the strikes once so common unknown. The Franco-German war, by arresting French importations, led to the revival of the Coventry ribbon trade, and it is now in a more flourishing condition than it had previously been for a long time, though it has scarcely yet entirely recovered. The hand-loom is not quite extinct, but is used only to a small extent; but the looms constructed for steam power are so made that they are available for hand-work where only one or two persons are employed.

But one branch of the ribbon trade is of peculiar

interest, as illustrating most remarkably the power of the Jacquard loom, and exemplifying the connection of literature, art, science, and religion with manufacturing enterprise and trade. The distress of 1860 suggested to Mr. Thomas Stevens, of Coventry, the manufacture of book-markers, badges, etc., in woven silk; and hence followed the introduction of the now well-known "illuminated ribbons," or "Textilographs" (much admired in France as well as in England), consisting not only of book-markers and badges, but of valentines, birthday offerings, scent sachets, etc., besides "silk jewellery" (brooches, solitaires, and ear-drops to match, in green, blue, purple, brown, or mourning colours), silk embroidery, etc. These were first brought out in 1861, and are among the triumphs of textile art; the book-markers, badges, etc., combining with their primary use elegant pictures, portraits, and inscriptions woven, with unexampled and unrivalled delicacy and perfection, in silk of various colours, brilliant and subdued, and shaded as skilfully as an expert artist could paint them. Here we have portraits of kings, princes, popes, patriots, eminent fathers of the church, authors, etc.—pictures of the religious scenes, landscapes, historical sites and buildings—selections from Scripture, devotional poems, patriotic and domestic songs, addresses of friendship and of love. Especially worthy of mention were the Shakespeare Tercentenary badge, note-paper, and envelopes; the badge giving the dates of Shakespeare's birth and death in plain and fancy lettering, with the addition of Ben Jonson's description—

"He was not for an age, but for all time;"

the Parish Church of Stratford-on-Avon, and the lines—

"He so sepulchred in such pomp doth lie,  
That kings for such a tomb would wish to die."

There were 600 warp threads of silk in the width of the badge, and 2,000 weft threads in the portrait of Shakespeare, his house, and the church. There were also about 270 in the button, so that to make the complete badge of three ribbons and button the shuttle had to traverse the loom 6,270 times. In setting a loom to work this badge, the weaver had to pass the 600 warp threads through what is commonly called the "back-slay," the "harness," and the "fore-slay," including three passages. The looms generally contain sixteen shuttles, so that the weaver, before he can set to work, has to pass 30,000 threads, one at a time, through his fingers. The figured portion of the badge was produced by means of the Jacquard machine attached to the top of the loom. This machine raises the white warp thread twenty, thirty, sixty, or even a hundred threads at a time, more or less, according to the design to be produced. These threads are held up while the shuttle carrying the coloured weft, or shute, is driven across the loom; and then, again descending, they bind the shute into the work. This process being repeated 2,000 times, formed, as before stated, one portion of the badge, the entire badge requiring 6,270 repetitions. The Shakespearean note-paper and envelopes contained Shakespeare's portrait, with a rich ornamentation of appropriate mottoes, crests, etc.

#### SILK DYEING.

We have already alluded to the great effect which the introduction of the aniline dyes has had on the

ribbon trade of Coventry. The dyeing process is so interesting that we shall venture to describe it to our readers, occasionally noticing the old system. Till 1859 or 1860, almost all colouring matters were obtained from the vegetable kingdom, but the coal-tar colours then began to take their place among the old dye materials, which they have now almost entirely superseded. For this great revolution we are indebted to chemical science; and though the price paid for dyeing in England is less than that given to continental dyers, and we do not therefore bestow on the business the same care and attention as our foreign competitors, the latter cannot always equal, and certainly can never surpass, our English dyers in beauty of tint.

The raw silk, when it reaches the dyer, contains the natural gum and colour from the worm, with soap and other impurities, some of which have been necessarily added in "throwing" it, and which have all to be discharged from "soft" silks, though, in the case of other silks, this is less fully done. The silk is therefore placed in hanks on long sticks, immersed in a boiling liquor of soap, water, and carbonate of soda, "turned" from twenty to forty minutes, "crushed," or squeezed, put upon cords, placed in bags, steeped for two or three hours in almost boiling soap and water, which the fabric of the bags allows to pass freely through it, taken out, washed in cold water to free it from the soap, and, this done, it is ready for the dyeing "barques." For white and other delicate shades, however, it is bleached before dyeing in an air-tight room in which sulphur is burnt.

White is a combination of red and blue, and formerly the red was given by orchil or cochineal, and the blue by indigo. Aniline is now used for both; but the colour, though much finer, is not so lasting. The alcoholic solution of the colour is diluted with hot water and soap, through which the silk is passed. It is afterwards passed through water acidulated with tartaric acid. (Great difficulty is found in producing pure white when the natural colour of the material is brown.) The silk is placed in hanks upon sticks which rest on the edges of the dyeing barques, the silk hanging down being immersed about three-fourths in the dye. It is then "turned" or "pulled over," to bring the remainder in contact with the solution. When the workman considers that the colour of the silk resembles the pattern he has to copy, he takes a little, dries, and compares it. If it is not quite a match, he adds to the dye such colouring matter as he thinks necessary; in some cases he has to do this frequently.

There are several descriptions of Pinks, known in the trade as "Safflower," "Magenta," and "Magdala." The first is procured from the flower of *Carthamus tinctorius*, a plant of Northern India, somewhat resembling a thistle, but of a red hue, and containing two colouring matters, red and yellow, the red only being of use to the dyer, to whom it is supplied as "Carthamine," or "Carminic Acid." It is also used by artists in the form of "Pink Saucer," and by ladies as "Carmin Rouge." The Magenta Pink is procured from aniline, by the action of various reagents, the most valuable kind being derived from combination with arsenic acid. The patent for this has made its appearance in several of our law courts, and ultimately it was decided to be void in consequence of the little word "dry" being found in the specification. Magdala Pink is a very beautiful colour,

giving a kind of chameleon shade with direct and reflected light. It is prepared from naphthaline, and is very variable in its results.

Such colours as Leghorn, Straw, Maize, etc., were formerly produced by a combination of arnotto with other colouring matters; Brown and Claret by a union of various vegetable dyes—fustic, brazil, logwood, indigo, etc. All these are now dyed with the products of coal-tar in various degrees of combination.

Scarlet and Crimson are a very old series of colours, some of the few derived from the animal kingdom. Rosaniline, Magenta, and other coal-tar colours, have to a great extent superseded the use of this colouring matter.

We have already alluded to the "Coventry True Blue," for which the city was long so famous, which was thought "better than gold," and the superiority of which was imputed to the purity of the water. The old Blue known to our fathers and grandfathers was obtained from indigo produced by plants of the genus *Indigoferre*, cultivated in various parts of the world, especially in India. An Act of Parliament passed in the reign of Queen Elizabeth, and which remained in force nearly a century, prohibited the use of this dye-stuff, and authorised searchers to burn both indigo and logwood in every dye-house in which they could be found. Another blue, the Napoleon, was made by a salt of iron and potash, a modification of Prussian Blue. The splendid blues now produced have their origin in the indefatigable labours of Mr. Nicholson, formerly of the firm of Simpson, Maull, and Nicholson, who first manufactured Magenta on a large scale, and who have since "brought practically to bear the production of the whole series of colours, running from magenta or roseine, to red violet, violet, violet blue, and the most pure opal blue." Lavender, silver, and harmaline are produced by the judicious combination of aniline blue and violet.

The Violet obtained from aniline almost eclipses anything we can imagine to have been produced by the Tyrians in their celebrated purple. It is said, however, that the colouring matter obtained from the *murex* (which the Tyrians employed for the purpose) is identical with that obtained from aniline.\*

A good substantial Green was formerly dyed by a mixture of indigo-blue and fustic; but it was impossible by artificial light to distinguish from a blue the green so obtained. The first "gaslight" green was that derived from a colour produced by the action of aldehyde upon roseine, the yellow of picric acid being used to increase the yellowness of shade. It is said the Chinese produce a "gas-light" green from chlorophyl, the colouring matter of leaves.

During the processes of "taking off" and "boiling," silk loses at least a quarter of its weight when received by the dyer. Formerly, before the great increase in the price of raw silk, manufacturers were willing to allow the dyer to employ a black, which caused him to return them the material with a loss of this weight; or at most they only required him to send it back at the weight he received it. But for some years they have required it to be made heavier, and the weighting has more recently very much increased. In silks for ribbons and broad silks double

\* It has been believed that the famous Tyrian purple of the ancients is extinct, like the dodo, etc. Such is not a fact. We are at liberty to produce as much Tyrian purple as we like, but we should probably not obtain it, as the ancients did, from the whelks and other sea snails. For if the purple of the ancients was not derived from murexide—a substance we can obtain by means of the uric acid contained in Peruvian guano—murexide will produce the purple derived from the whelks. —*Phipson on the Aniline Dyes* (in the "Popular Science Review").

weight is often thus given; and in silks used for the manufacture of fringes, four times the original weight. Ordinary unweighted Black is dyed by the use of a salt of iron and logwood; but for the weighted silks a quantity of iron, gambier, chesnut, or some wood containing a large amount of tannin, is employed. The dyeing of these heavy blacks has often been attempted in Coventry, but up to the present time with great loss to the dyer. Manchester and Derby in this country, Crefeld in Germany, and Lyons in France, are much noted for the beauty of their heavy blacks. It has been found that a very large quantity of water is necessary for cleansing the silk in weighted black dyeing; and in each town where this branch of the trade is carried on water is supplied by rivers, or collected in large reservoirs from the surrounding hills. In Lyons, Basle, and Derby, the workmen wash out their silk in flat-bottomed boats.

The black silk dresses of our grandmothers, as many can remember, were often, after years of wear, handed down to their children, and possibly descended to their grandchildren. Now that the weighted silks are employed, great complaints are made by the ladies that their dresses are worn out before they have had them many weeks. The manufacturers, we are told, are not wholly to blame; raw silk having doubled in value, and many of the fair sex being unaware of it, they have been greatly astonished to be shown by their silk-mercers a very thin material; and it was therefore considered necessary for the manufacturer to employ a silk thread which, by the addition of other material, would take the place of two or more threads. The attention of the dyer was therefore called to the matter, and, by adding various drugs to his dyes, he now makes them heavier. The dyeing of black weighted silk is now to a great extent a mere tanning of the fibre. Many manufacturers, however, are of opinion that it is better to employ the unweighted silk; and it may be hoped that the time is not far off when ladies, manufacturers, and dyers will find it to their advantage to use only this class of goods.

All silks after the various processes of dyeing are dried in a stove heated by hot air, or steam, and then "stringed," an operation which gives them increased lustre. In some cases they are stretched on revolving heated rollers.

The foregoing particulars have been obligingly furnished us by Messrs. Hands, Son, and Co., of Coventry, who carried off the medals of the International Exhibitions, London and Dublin; and the highest (silver) medal awarded to English dyers at the Paris Exhibition of 1867.

When some years ago Miss Martineau paid a visit to Coventry, she prepared an article entitled "Rainbow Making" for "All the Year Round," in which she describes the works then carried on in this establishment. When taken into the department for weighting light colours on silk, she exclaimed, "Oh, then, this is the dyer's 'devil's dust!'" and so in reality it is. To meet the demand for cheap silks, it is the custom for some manufacturers to give an artificial thickness to the fibre by the addition of cane or grape sugar in the form of glucose, which is put upon the silk after it has been dyed; much of this is lost in the manufacture, but some of it is retained by the fibre. Unfortunately the moisture of the atmosphere redissolves the sugar, which, on becoming dry, partly recrystallises, and shows itself in white streaks on the fabric. Messrs. Hands tell us they have lately

introduced a method of weighting previous to dyeing, by which they are enabled to give the desired substance without the disadvantage of subsequent streakiness.

### THE FLOWERS OF TOWTON FIELD.\*

In the summer of 1858, being, with my son-in-law, Mr. Whelan, on a visit to Lord Londesborough, at Grimston Park, near Tadcaster, Yorkshire, I was present at a grand entertainment given by his lordship to his principal tenantry in that county. It was a day *fête*, the company assembling about noon. There was a sumptuous *déjeuner*, or early dinner, in the riding-house, and a large marquee erected for dancing in the park, on the confines of which is a field called Battle Acre, being the place, according to tradition, where the Lancastrians made their last ineffectual stand against the forces of the rival house of York in the decisive conflict of Towton Field. During the dancing I strolled down into "the Acre," which is celebrated for a singular natural curiosity. A quantity of wild white roses annually spring up and blossom in a particular portion of it, and all attempts to destroy them by the farmers of the land had failed up to that period. The general opinion appeared to be that they had been originally planted by the victorious party in commemoration of the triumph of the White Rose, and probably on a spot where a pile of their slain had been buried. Lord Londesborough had used his endeavours to prevent their extirpation after he became possessed of the property, and at the time I speak of they still continued to make their annual appearance. The following verses, suggested by this interesting fact, were strung together on the spot, and a copy of them given to Lady Londesborough the next morning at breakfast. As they have never been printed, the singularity of the subject will render excusable their introduction here:—

### A BALLAD OF BATTLE ACRE.

There is a patch of wild white roses that bloom on a battle-field,  
Where the rival rose of Lancaster blush'd redder still to yield;  
Four hundred years have o'er them shed their sunshine and  
    their snow,  
But in spite of plough and harrow, every summer there they  
    blossom;  
Though rudely up to root them with hand profane you toil,  
The faithful flowers still fondly cluster round the sacred soil;  
Though tenderly transplanted to the nearest garden gay,  
Nor cost, nor care, can tempt them there to live a single day!

I ponder'd o'er their blossoms, and anon my busy brain  
With banner'd hosts and steel-clad knights repeopled all the  
    plain.  
I seem'd to hear the lusty cheer of the bowmen bold of York,  
As they mark'd how well their cloth-yard shafts had done their  
    bloody work;  
And steeds with empty saddles came rushing wildly by,  
And wounded warriors stagger'd past, or only turn'd to die,  
And the little sparkling river was cumbered as of yore,  
With ghastly corse of man and horse, and ran down red with  
    gore.

I started as I ponder'd, for loudly on mine ear  
Rose indeed a shout like thunder, a true old English cheer;

\* From Mr. Planché's "Autobiography." Tinsley Brothers.



And the sound of drum and trumpet came swelling up the vale,  
 And blazon'd banners proudly flung their glories to the gale;  
 But not, oh! not to battle did those banners beckon now—  
 A baron stood beneath them, but not with helmeted brow,  
 And Yorkshire yeomen round him throng'd, but not with bow and lance,  
 And the trumpet only bade them to the banquet and the dance.

Again my brain was busy: from out those flow'rets fair,  
 A breath arose like incense—a voice of praise and prayer!  
 A silver voice that said, "Rejoice! and bless the God above,  
 Who hath given thee these days to see of peace, and joy, and love;  
 Oh, never more by English hands may English blood be shed,  
 Oh, never more be strife between the roses white and red.  
 The blessed words the shepherds heard may we remember still,  
 'Throughout the world be peace on earth, and towards man goodwill.'"

### WHAT SHAKESPEARE SAYS ABOUT DRINKING CUSTOMS.

I WONDER that temperance lecturers and teetotal advocates do not quote more frequently some of the striking passages in which the great dramatist describes the baneful effects of intemperance. No descriptions outside the inspired writings are so intensely true. "Who hath woe? who hath sorrow? who hath contentions? who hath babbling? who hath wounds without cause? Who hath redness of eyes? They that tarry long at the wine. At the last it biteth like a serpent, and stingeth like an adder" (Prov. xxiii. 29-32). "Wine is a mocker, strong drink is raging; and whosoever is deceived thereby is not wise" (Prov. xx. 1).

For lay sermons on these texts turn to Shakespeare's pages. When the villain Iago wishes to make Cassio the tool of crime he presses him to drink: "Come, Lieutenant," says Iago, "I have a stoop of wine; and here without are a brace of Cyprus gallants, that would fain have a measure to the health of black Othello."

"Not to-night, good Iago; I have very poor and unhappy brains for drinking. I could well wish courtesy would invent some other custom of entertainment."

It is to this custom of "entertaining" by drink and revelry that Hamlet alludes when he says to Horatio:—"It is a custom more honoured in the breach than the observance."

And Apemantus says to Timon of Athens of his wines and the custom of "drinking healths":—"Those healths will make thee and thy state look ill. Here's that which is too weak to be a sinner, Honest water, which ne'er left man i' the mire."

When Cassio is persuaded to drink, and is amused by Iago's drinking song, the villain says:—"I learned it in England, where indeed they are most potent in potting. Your Dane, your German, and your swag-bellied Hollander—drink, ho!—are nothing to your English."

Afterwards, when Cassio has come to his senses, and his conscience begins to awake, he says:—

"Drunk! and speak parrot! and squabble, swagger, and discourse fustian with one's own shadow! O thou invisible spirit of wine, if thou hast no name to be known by, let us call thee devil!

*Iago*.—What was he that you followed with your sword? What had he done to you?

*Cassio*.—I know not.

*Iago*.—Is 't possible?

*Cassio*.—I remember a mass of things, but nothing distinctly; a quarrel, but nothing wherefore. O that men should put an enemy in their mouths to steal away their brains! that we should with joy, pleasure, revel, and applause, transform ourselves into beasts!"

And again—

"It hath pleased the devil drunkenness to give place to the devil wrath; one imperfection shows me another to make me frankly despise myself."—*Othello*, act v. sc. 5.

Shakespeare makes even his clowns and fools expose the vice of intemperance and the degradation of drunkards.

"*Olivia*.—What's a drunken man like, fool?

*Clown*.—Like a drowned man, a fool, and a madman; one draught above heat makes him a fool, the second mads him, and a third drowns him."

What a sermon, too, on the blessings of temperance, is contained in the few lines in the third scene of the second act of "As you like it," when Adam says to his young master—

"Let me be your servant!

Though I look old, yet I am strong and lusty;

For in my youth I never did apply

Hot and rebellious liquors in my blood;

Nor did not with unbashful forehead woo

The means of weakness and debility:

Therefore, my age is as a lusty winter,

Frosty but kindly; let me go with you,

I'll do the service of a younger man

In all your business and necessities."

If these lessons cannot be heard in the pulpit, let them be oftener used on the platform in the cause of temperance.

### JOHN BULL'S EXPENSES.

THE "dryness" usually attributed to statistics is probably the dulness of impression made by statements of figures that carry with them no distinct and quickening ideas. Where it can be done, therefore, it is well that the engraver should come to the aid of the statistician, and convey to the reader some notion, at least, of the relation between dimensions that are too vast to be easily or accurately grasped. This is done in the columns now placed before our readers, highest among which, and towering ignominiously over all, is that which indicates the expenditure of the British nation upon intoxicating drinks in a single year. The aggregate sum would be incredible were it not demonstrably within, rather than above, the amount actually spent in the compass of twelve months and of the British Isles upon fermented and distilled liquors. Of the £108,163,322 thus applied, it is believed that the larger portion comes from the working classes who can least afford, if their real wants are to be supplied, to waste sixty millions yearly on luxuries of any kind; while, in this particular case, the drink expenditure brings with it an equal loss of wealth to the community, and an addition to its misery, crime, and depravity of the most appalling character. Confining attention at present to the outlay of solid money in strong drink,

it may interest and impress the reader to know that these hundred and eight millions of pounds sterling, if collected as sovereigns, and placed edge to edge (forty-one to a yard), would form a belt of gold fifteen

hundred miles in length, or if placed one upon another (fifteen to an inch), would form one hundred and sixteen columns, each a mile in height. Next in size to this colossal pillar, but much inferior to it, is that which represents the value of British textile manufactures exported in 1870, including all cotton, woolen, and linen manufactured goods, the aggregate worth of which was rated at £86,000,000. Following this is the bread pillar, with an estimated cost to the eaters of £73,500,000, being nearly thirty-five millions less than the drink bill of the British nation. The next column shows that the whole cost of government, comprising army, navy, and the interest on the national debt, is £70,000,000, the civil charges (£13,000,000) not amounting to one-eighth of the cost

of beer, spirits, and wine. The expenses of the monarchy are, of course, not a thirtieth part

of the civil charges. The column relating to savings banks (embracing the post-office savings banks) gives as the total of capital thus invested the sum of £55,000,000—just one-half of the country's liquor outlay in one year, whereas this capital of savings is the result of increasing deposits (after withdrawals) for upwards of fifty years.

The annual receipts on all British railways are stated in the next column at £40,000,000; an expenditure of money on the interchange of goods and on purposes of business and recreation contrasting very strikingly with the abuses and evils of every kind flowing from the liquors so dearly bought at an expenditure twice and a half as great. The same remark applies with equal pertinence to the annual value of coal, iron, and other metals; in a word, to the entire produce of our mines, amounting in the whole to £45,000,000, and conducing to the health, warmth, refinement, comfort, and civilisation of our nation and the world.

The tea and breakfast tables, with their beverages of tea, coffee, and cocoa, and their sweetener, sugar, cost us only £40,000,000 annually.

The pauperism and county charges of England and Wales are met (and how inadequately every philanthropic heart knows) by a tax of £12,000,000, the major proportion of which is a drink tax under another name. Tobacco and snuff are procured at an expenditure of £10,000,000; and (*proh pudor!*) the great religious and benevolent institutions of the country have to subsist and struggle under their heroic tasks on a pecuniary allowance of £2,000,000 sterling—one-fifth of the tobacco money and one-fifty-fourth of the drink money of our professedly Christian land.

The eloquent orator and sensational writer may consent to be silent in the presence of these arresting and admonitory lines of figures. They are symbols of facts intimately connected with the life and death, the progress and decay, of this beloved land which we are proud to call our own. With all its faults, we love it; but our love, if founded in wisdom and Christian principle, will constrain us to exert ourselves for

the removal of the faults and vices by which its vigour is weakened and its lustre dimmed. Not until the column which towers over all the rest is brought low can we hope for the day

when other nations shall be able to look to England as an example of morality and virtue.

